

Table 3–14 lists sensitive bird species, including migratory birds, that may occur in the vicinity of the site, although on-site habitat limits typical nesting and breeding activities. Most of these species are protected under the MBTA, which prohibits take or destruction of birds, nests, or eggs of listed migratory birds.

Table 3–14. Sensitive Bird Species Protected Under the Fish and Wildlife Conservation Act and Migratory Bird Treaty Act That May Occur Near the Moab Site

| Species  | Potential to Occur in Project Area   |
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| <b>Order Gaviiformes—Open-water birds</b><br>Common loon ( <i>Gavia immer</i> )  | Low  |
| <b>Order Ciconiiformes—Long-legged waders</b><br>American bittern ( <i>Botaurus lentiginosus</i> )<br>White-faced ibis ( <i>Plegadis chihi</i> )   | Moderate<br>Moderate   |
| <b>Order Falconiformes—Birds of prey</b><br>Golden eagle ( <i>Aquila chrysaetos</i> )<br>Northern harrier ( <i>Circus cyaneus</i> )<br>Prairie falcon ( <i>Falco mexicanus</i> )<br>Red-tailed hawk ( <i>Buteo jamaicensis</i> )<br>Turkey vulture ( <i>Cathartes aura</i> )   | High<br>Moderate<br>Moderate<br>High<br>High   |
| <b>Order Gruiformes—Marsh and open country birds</b><br>Black rail ( <i>Laterallus jamaicensis</i> )<br>Yellow rail ( <i>Coturnicops noveboracensis</i> )  | Moderate<br>Low  |
| <b>Order Charadriiformes—Shorebirds</b><br>Black tern ( <i>Chlidonias niger</i> )<br>Long-billed curlew ( <i>Numenius americanus</i> )<br>Marbled godwit ( <i>Limosa fedoa</i> )<br>Snowy plover ( <i>Charadrius alexandrinus</i> )<br>Solitary sandpiper ( <i>Tringa solitaria</i> )<br>Upland sandpiper ( <i>Bartramia longicauda</i> )<br>Wilson's phalarope ( <i>Phalaropus tricolor</i> )   | Moderate<br>Moderate<br>Moderate<br>Moderate<br>Moderate<br>Low<br>Moderate              |
| <b>Order Strigiformes—Nocturnal birds of prey</b><br>Barn owl ( <i>Tyto alba</i> )<br>Flammulated owl ( <i>Otus flammeolus</i> )<br>Short-eared owl ( <i>Asio flammeus</i> )   | Low<br>Low<br>Low  |
| <b>Order Apodiformes—Small swallowlike birds</b><br>Black swift ( <i>Cypseloides niger</i> )<br>Vaux's swift ( <i>Chaetura vauxi</i> )   | Low<br>Low   |
| <b>Order Piciformes—Wood-boring birds</b><br>Red-headed woodpecker ( <i>Melanerpes erythrocephalus</i> )<br>Williamson's sapsucker ( <i>Sphyrapicus thyroideus</i> )   | Low<br>Low   |
| <b>Order Passeriformes—Perching birds</b><br>Olive-sided flycatcher ( <i>Contopus borealis</i> )<br>Gray flycatcher ( <i>Empidonax wrightii</i> )<br>Pinyon jay ( <i>Gymnorhinus cyanocephalus</i> )<br>Bendire's thrasher ( <i>Toxostoma bendirei</i> )<br>Crissal thrasher ( <i>Toxostoma dorsale</i> )<br>Bewick's wren ( <i>Thryomanes bewickii</i> )<br>Sedge wren ( <i>Cistothorus platensis</i> )<br>Verry ( <i>Catharus fuscenscens</i> )<br>Sprague's pipit ( <i>Anthus spragueii</i> )<br>Loggerhead shrike ( <i>Lanius ludovicianus</i> ) | Low<br>Moderate<br>Low<br>High<br>High<br>Moderate<br>Low<br>Moderate<br>Low<br>Moderate |

Note: Birds listed in the table are protected under the Fish and Wildlife Conservation Act (Birds of Conservation Concern [2000] [USF&WS 2002f] and the MBTA [50 CFR 10], Executive Order 13186). Species listed as threatened or endangered under the ESA or considered endangered, threatened, or rare by the State of Utah are not included here.

### **3.1.12 Land Use**

Federal, state, city, or county entities administer approximately 90 percent of the land in Grand County. Among federal agencies, BLM administers the greatest percentage of land. Several national parks are in the vicinity of the Moab site. Arches National Park is adjacent to the north border of the site, and Canyonlands National Park is approximately 12 miles (see Figure 2–2) southwest of the site (in San Juan and Wayne Counties). The closest boundary to the Uinta and Ouray Indian Reservation is located approximately 44 air miles north-northwest of the site; however, the closest populated area within the reservation is considerably farther at Duchesne, about 120 air miles north of Moab.

Most of the land in this area is open to recreational uses, and tourism is an important part of the Moab economy. Favorable weather allows off-road access for hikers, bikers, and off-highway vehicles in virtually all seasons. The Colorado River adjacent to the site is a source of extensive recreational use for spring and summer water sports. Because the land directly south of the site adjoins the river and access is not limited, it is often used by campers and hikers throughout the summer months. The entrance to Arches National Park is within 1 mile of the site boundary. It is the northern end of a crescent of national parks and recreation areas that curve southwesterly to the Grand Canyon in Arizona. Most of the visitors to Arches National Park are there for the day only. During 2002, 765,000 visitor days were recorded at the park, of which 41,524 included at least one overnight stay. This park includes exceptional viewpoints and is known for its many spectacular arches.

Grand County has little land suitable for farming. Areas that are suitable for cultivation are limited to Moab Valley and Spanish Valley. Grand County has no prime or unique farmlands. Residential and commercial development has been increasing since 1979, and agricultural use has declined. Grazing occurs throughout the region, including on the plateaus. However, low rainfall and sparse vegetation limit livestock numbers. Except where irrigation is present, federal grazing allotments cover large areas.

Land use in the vicinity of the Moab site is largely commercial, with few residents in the immediate area. The nearest full-time residence is at the northeast corner of the site between Courthouse Wash and the easternmost site boundary. A river tours and gift shop business is located adjacent to the east side of Courthouse Wash. A restaurant, a residence, and two commercial parks for recreational vehicles, motor homes, and trailers are along US-191 approximately 0.75 to 1.5 miles east of the site. Area land use between the Moab and Crescent Junction sites is shown on [Figure 3–18](#).

Land directly south of the site is privately owned and is vacant. The northwest edge of the main residential and commercial area of the city of Moab is across the Colorado River, approximately 1.8 miles southeast of the site.

The land directly across and adjoining the Colorado River to the east is designated as the Matheson Wetlands Preserve. It is jointly owned and managed by UDWR and the Nature Conservancy. The 875-acre preserve includes a trail system, educational kiosks, wildlife viewing platforms, and a water delivery system. Land uses farther downstream along the Colorado River include residences for about 15 families, 100 to 150 acres of forage crops, grazing, and a potash facility (NRC 1999).

The headquarters and staff residences for Arches National Park are located about 1.2 miles northwest of the Moab site. No residences or residential areas, other than those identified above, are known to be located within 2 miles of the site.

### **3.1.13 Cultural Resources**

#### ***3.1.13.1 Cultural History of Southeastern Utah***

The earliest known humans to inhabit southeastern Utah were believed to have arrived around 10,000 B.C. These paleoindian people were nomadic hunters of large game animals, which at that time included the mammoth, horse, camel, bison, and giant sloth. Stone weapon points from this period have been found in southeastern Utah. These hunters were believed to have migrated out of the area soon after the end of the Pleistocene (Berry 2003).

From 7800 to approximately 500 B.C., Archaic people inhabited southeastern Utah. These were hunter-gatherers who depended more on small game and plants for subsistence. Sometime after 2000 B.C., agriculture was adopted by many of the Archaic people, and a more sedentary, group-oriented lifestyle began. A number of archaeological sites containing evidence of Archaic-age tools, weapons, and structures have been discovered throughout southeastern Utah.

With the advent of horticulture, populations of tribal groups within the southeastern Utah area expanded and diversified. Between A.D. 1 and 1300, several distinct cultural groups inhabited the area, the best known of which were the Anasazi and Fremont. Grand County is thought to have been the northern limit of Anasazi habitation, although some rock art and pottery remains have been found in the Moab and Arches National Park areas. The Fremont group is believed to have inhabited areas primarily north of Moab. Numerous lithic sites, granaries, and storage pits have been found in the area between Arches National Park and the Book Cliffs. The abundant pictographs and petroglyphs discovered throughout southeastern Utah derive from the Anasazi and Fremont people. Both of these groups abandoned the Four Corners region between A.D. 1250 and 1400.

The ancestors of the present-day Ute and Southern Paiute tribes entered southeastern Utah about A.D. 1200. They were mainly hunter-gatherers who hunted and traveled in small bands composed of two to two dozen individuals. By the time Anglo-Americans arrived in southeastern Utah, the San Juan Southern Paiutes and several bands of Utes were well established in the area.

The Ute people were closely tied to the land, not so much through agriculture but through hunting and gathering; thus, their survival depended heavily upon having complete access to the land (Cuch 2000).

In the late 1800s and early 1900s, their free-roaming lifestyle ended when the Utes were removed from their ancestral lands and forced onto reservations. Today, the Ute bands that once roamed the lands of southeastern Utah are concentrated in reservations in a number of areas: the White Mesa Ute community 9 miles south of Blanding, Utah; the Ute Mountain Utes in Towaoc, Colorado; the Southern Utes in Ignacio, Colorado; and the Northern Utes in White Rocks, Fort Duchesne, and Randlett, Utah.

The Navajos migrated into the Four Corners region sometime between A.D. 900 and 1400. In San Juan County, the earliest known Navajo site, discovered in White Canyon (adjacent to the